

Deck fitting type	Deck fitting loss factor (K_F) ^a	Typical number of fittings (N_F)
Weighted mechanical actuation, gasketed	^b 0.7	
Weighted mechanical actuation, ungasketed	0.9	

^a Units for K_F are pound-moles per year.^b If no specific information is available, this value can be assumed to represent the most common/typical deck fittings currently used.^c D=Tank diameter (feet).^d Not used on welded contact internal floating decks.TABLE 28 TO SUBPART G OF PART 63—DECK SEAM LENGTH FACTORS^A (S_D) FOR INTERNAL FLOATING ROOF TANKS

Deck construction	Typical deck seam length factor
Continuous sheet construction ^b :	
5-foot wide sheets	0.2 ^c
6-foot wide sheets	0.17
7-foot wide sheets	0.14
Panel construction ^d :	
5 × 7.5 feet rectangular	0.33
5 × 12 feet rectangular	0.28

^a Deck seam loss applies to bolted decks only. Units for S_D are feet per square feet.^b $S_D=1/W$, where W = sheet width (feet).^c If no specific information is available, these factors can be assumed to represent the most common bolted decks currently in use.^d $S_D=(L+W)/LW$, where W = panel width (feet), and L = panel length (feet).

TABLE 29 TO SUBPART G OF PART 63—SEAL RELATED FACTORS FOR EXTERNAL FLOATING ROOF VESSELS

Seal type	Welded ves-sels		Riveted ves-sels	
	K_S	N	K_S	N
Metallic shoe seal:				
Primary seal only	1.2	1.5	1.3	1.5
With shoe-mounted secondary seal	0.8	1.2	1.4	1.2
With rim-mounted secondary seal	0.2	1.0	0.2	1.6
Liquid mounted resilient seal:				
Primary seal only	1.1	1.0	^a NA	NA
With weather shield	0.8	0.9	NA	NA
With rim-mounted secondary seal	0.7	0.4	NA	NA
Vapor mounted resilient seal:				
Primary seal only	1.2	2.3	NA	NA
With weather shield	0.9	2.2	NA	NA
With rim-mounted secondary seal	0.2	2.6	NA	NA

^a NA=Not applicable.TABLE 30 TO SUBPART G OF PART 63—ROOF FITTING LOSS FACTORS, K_{Fa} , K_{Fb} , AND M ,^A AND TYPICAL NUMBER OF FITTINGS, N_T

Fitting type and construction details	Loss factors ^b			Typical number of fittings, N_T
	K_{Fa} (lb-mole/yr)	K_{Fb} (lb-mole/[mi/hr] ^m -yr)	m (dimensionless)	
Access hatch (24-in-diameter well)				1.
Bolted cover, gasketed	0	0	^c 0	
Unbolted cover, ungasketed	2.7	7.1	1.0	
Unbolted cover, gasketed	2.9	0.41	1.0	
Unslotted guide-pole well (8-in-diameter unslotted pole, 21-in-diameter well)				1.
Ungasketed sliding cover	0	67	^c 0.98	
Gasketed sliding cover	0	3.0	1.4	
Slotted guide-pole/sample well (8-in-diameter unslotted pole, 21-in-diameter well)				(^d).
Ungasketed sliding cover, without float	0	310	1.2	
Ungasketed sliding cover, with float	0	29	2.0	
Gasketed sliding cover, without float	0	260	1.2	
Gasketed sliding cover, with float	0	8.5	1.4	
Gauge-float well (20-inch diameter)				1.

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Fitting type and construction details	Loss factors ^b			Typical number of fittings, N _T
	K _{Fa} (lb-mole/yr)	K _{Fb} (lb-mole/[mi/hr] ^m -yr)	m (dimensionless)	
Unbolted cover, ungasketed	2.3	5.9	^c 1.0	1.
Unbolted cover, gasketed	2.4	0.34	1.0	
Bolted cover, gasketed	0	0	0	
Gauge-hatch/sample well (8-inch diameter) .....	.....	.....	.....
Weighted mechanical actuation, gasketed.	0.95	0.14	^c 1.0	N _{F6} (Table 31).
Weighted mechanical actuation, ungasketed.	0.91	2.4	1.0	
Vacuum breaker (10-in-diameter well) .....	.....	.....	.....
Weighted mechanical actuation, gasketed.	1.2	0.17	^c 1.0	
Weighted mechanical actuation, ungasketed.	1.2	3.0	1.0	N _{F7} (Table 31). N _{F8} (Table 32').
Roof drain (3-in-diameter) .....	.....	.....	.....
Open	0	7.0	^e 1.4	
90 percent closed	0.51	0.81	1.0	
Roof leg (3-in-diameter)	N _{F8} (Table 32').
Adjustable, pontoon area	1.5	0.20	^c 1.0	
Adjustable, center area	0.25	0.067	^c 1.0	
Adjustable, double-deck roofs	0.25	0.067	1.0	
Fixed	0	0	0	N _{F8} (Table 32').
Roof leg (2½-in-diameter) .....	.....	.....	.....
Adjustable, pontoon area	1.7	0	0	
Adjustable, center area	0.41	0	0	
Adjustable, double-deck roofs	0.41	0	0	1 ^g .
Fixed	0	0	0	
Rim vent (6-in-diameter) .....	.....	.....	.....
Weighted mechanical actuation, gasketed.	0.71	0.10	^c 1.0	
Weighted mechanical actuation, ungasketed.	0.68	1.8	1.0	

^aThe roof fitting loss factors, K_{Fa}, K_{Fb}, and m, may only be used for wind speeds from 2 to 15 miles per hour.

^bUnit abbreviations are as follows: lb = pound; mi = miles; hr = hour; yr = year.

^cIf no specific information is available, this value can be assumed to represent the most common or typical roof fittings currently in use.

^dA slotted guide-pole/sample well is an optional fitting and is not typically used.

^eRoof drains that drain excess rainwater into the product are not used on pontoon floating roofs. They are, however, used on double-deck floating roofs and are typically left open.

^fThe most common roof leg diameter is 3 inches. The loss factors for 2½-inch diameter roof legs are provided for use if this smaller size roof is used on a particular floating roof.

^gRim vents are used only with mechanical-shoe primary seals.

TABLE 31 TO SUBPART G OF PART 63—TYPICAL NUMBER OF VACUUM BREAKERS, N_{F6} AND ROOF DRAINS, ^A N_{F7}

Tank diameter D (feet) ^b	No. of vacuum breakers, N _{F6}		No. of roof drains, N _{F7} double-deck roof ^c
	Pontoon roof	Double-deck roof	
50	1	1	1
100	1	1	1
150	2	2	2
200	3	2	3
250	4	3	5
300	5	3	7
350	6	4	^d
400	7	4	^d

^aThis table should not supersede information based on actual tank data.

^bIf the actual diameter is between the diameters listed, the closest diameter listed should be used. If the actual diameter is midway between the diameters listed, the next larger diameter should be used.

^cRoof drains that drain excess rainwater into the product are not used on pontoon floating roofs. They are, however, used on double-deck floating roofs, and are typically left open.

^dFor tanks more than 300 feet in diameter, actual tank data or the manufacturer's recommendations may be needed for the number of roof drains.